

What Is Claimed Is:

1. A radar device, in particular a hand-held short-range radar for determining the location of objects enclosed in a medium, comprising at least one radar sensor (60), which generates a first, high-frequency detection signal for penetrating a medium to be tested in such a way that information about an object enclosed in the medium can be obtained by measuring and analyzing the reflected detection signal of the at least one radar sensor (60),
wherein at least one additional sensor (64, 65, 66, 68, 70, 92) is provided for generating at least one additional, second detection signal for obtaining information about the object enclosed in the medium.
2. The radar device as recited in Claim 1,
wherein the at least one additional sensor is an inductive sensor (64).
3. The radar device as recited in Claim 1,
wherein the at least one additional sensor is a capacitive sensor (65, 66, 68).
4. The radar device as recited in Claim 3,
wherein at least one electrode of a capacitive sensor (65, 66, 68) is formed by at least one antenna (16, 24, 86, 88) of the radar sensor (60).
5. The radar device as recited in Claim 1,
wherein the at least one additional sensor is a photometric sensor (92,70).
6. The radar device as recited in Claim 4,
wherein the at least one additional photometric sensor is an infrared sensor (70).
7. The radar device as recited in one or more of the preceding Claims 1 through 5,
wherein at least two of the sensors (60, 64, 66, 68, 70, 92) are integrated into a shared housing of the instrument (62).
8. The radar device as recited in Claim 6,
wherein at least two of the sensors (60, 64, 66, 68, 70, 92) are situated on a shared PC board (18).

9. The radar device as recited in one of Claims 1 through 7,
wherein the radar sensor (60) is a wideband pulse radar sensor.
10. A method for determining the location of objects enclosed in a medium, in which a first, high-frequency detection signal is generated with the aid of at least one antenna (16, 86, 88) of a radar sensor (60), the detection signal being transmitted into the medium to be tested, so that information about an object enclosed in the medium is obtained by measuring and analyzing the first detection signal, in particular by measuring the reflected radar signal,
wherein at least one additional, second detection signal is analyzed for obtaining information about the object enclosed in the medium.
11. The method as recited in Claim 10,
wherein at least one antenna (16, 86, 88) of the radar sensor (60) is operated, at least intermittently, as an electrode of an additional sensor, in particular a capacitive sensor (65, 66, 68).
12. The method as recited in Claim 10,
wherein the at least one additional detection signal is generated by at least one additional sensor device (64, 65, 66, 68, 70, 92).
13. The method as recited in Claim 10 or 12,
wherein the at least one first detection signal and the at least one second detection signal are measured simultaneously.
14. The method as recited in Claim 10, 11, or 12,
wherein the at least one first detection signal and the at least one second detection signal are measured quasi-simultaneously.
15. The method as recited in Claim 10, 11, or 12,
wherein the at least one first detection signal and the at least one second detection signal are measured sequentially.
16. The method as recited in one of preceding Claims 10 through 15, in particular as recited in Claim 10,
wherein the detection signals of a plurality of sensors are measured and analyzed, the

sensors originating from a group of sensors which includes at least capacitive sensors (65, 66, 68), inductive sensors (64), and photometric sensors (70, 94).

17. The method as recited in one of preceding Claims 10 through 16, wherein at least one detection signal of a sensor (64, 65, 66, 68, 70, 92) is optimized by measuring and analyzing at least one additional detection signal.

Abstract

A radar device is described, in particular a hand-held short-range radar for determining the location of objects enclosed in a medium, including at least one radar sensor (60), which generates a first, high-frequency detection signal for penetrating a medium to be tested in
5 such a way that information about an object enclosed in the medium can be obtained by measuring and analyzing the reflected detection signal of the radar sensor (60).

At least one additional sensor (64, 66, 68, 70, 92) is provided for generating at least one additional, second detection signal for obtaining information about the object enclosed in the medium.

10 The method on which this radar instrument is based is also described.

(Figure 2)